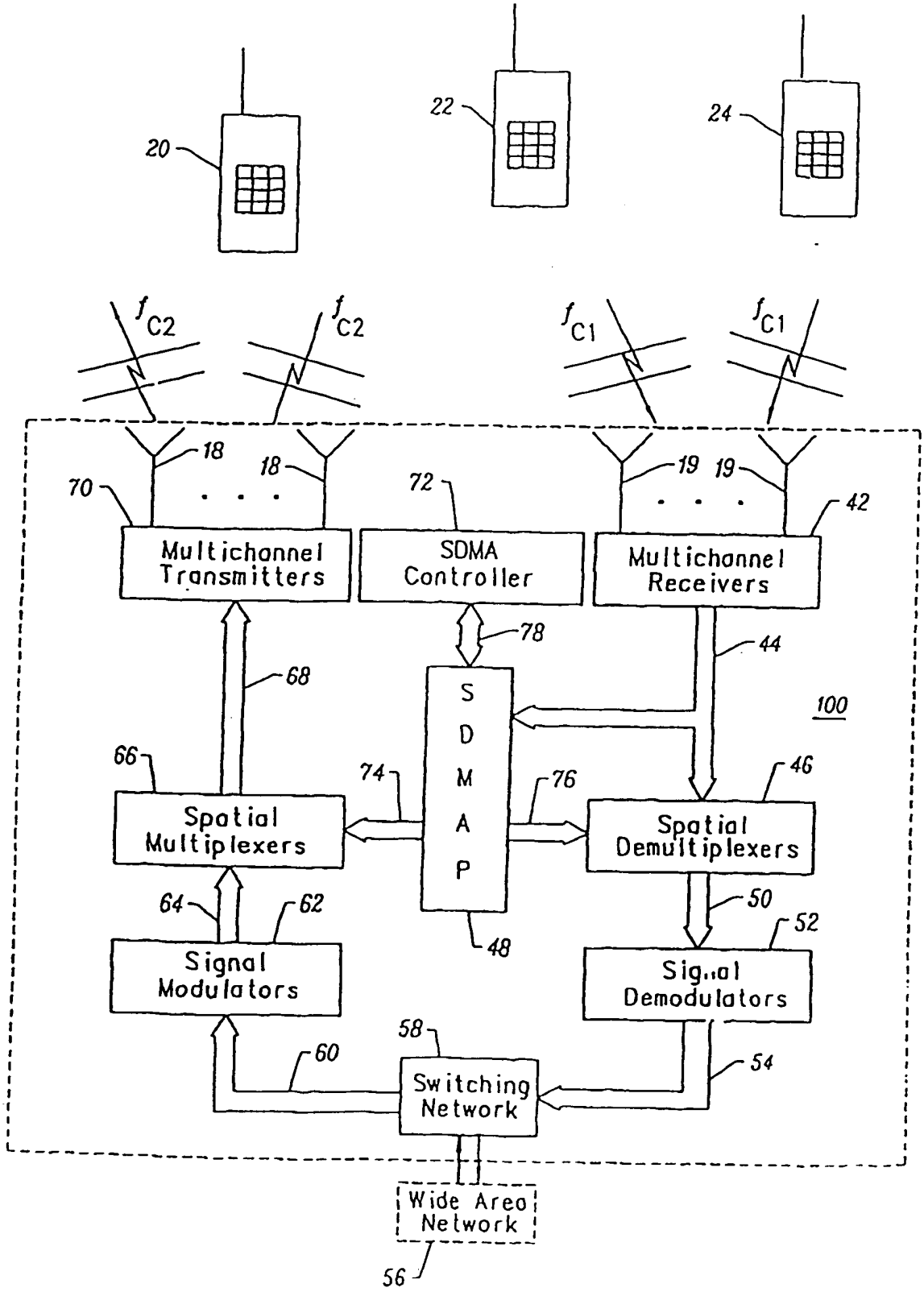
20
22
24
f_{C2}
f_{C2}
f_{C1}
f_{C1}
18
18
19
19
70
72
42
Multichannel Transmitters
SDMA Controller
Multichannel Receivers
78
44
68
S
D
M
A
P
100
66
74
76
46
Spatial Multiplexers
Spatial Demultiplexers
64
62
50
52
48
Signal Modulators
Sig..al Demodulators
58
60
54
Switching Network
Wide Area Network
56

FIG. 1

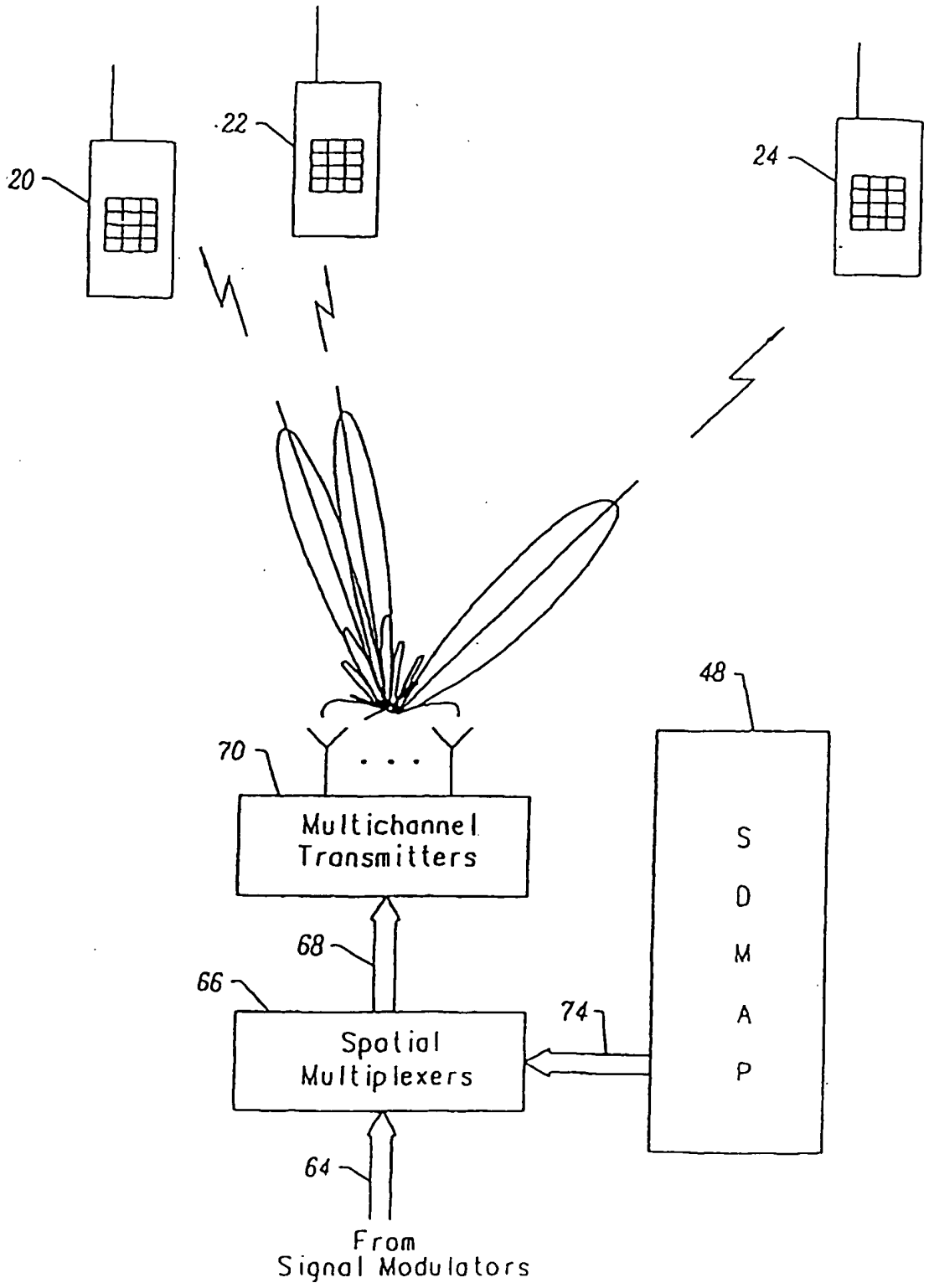
20
22
24
48
70
Multichannel Transmitters
S
D
M
A
P
68
66
74
Spatial Multiplexers
64
From Signal Modulators

FIG. 2

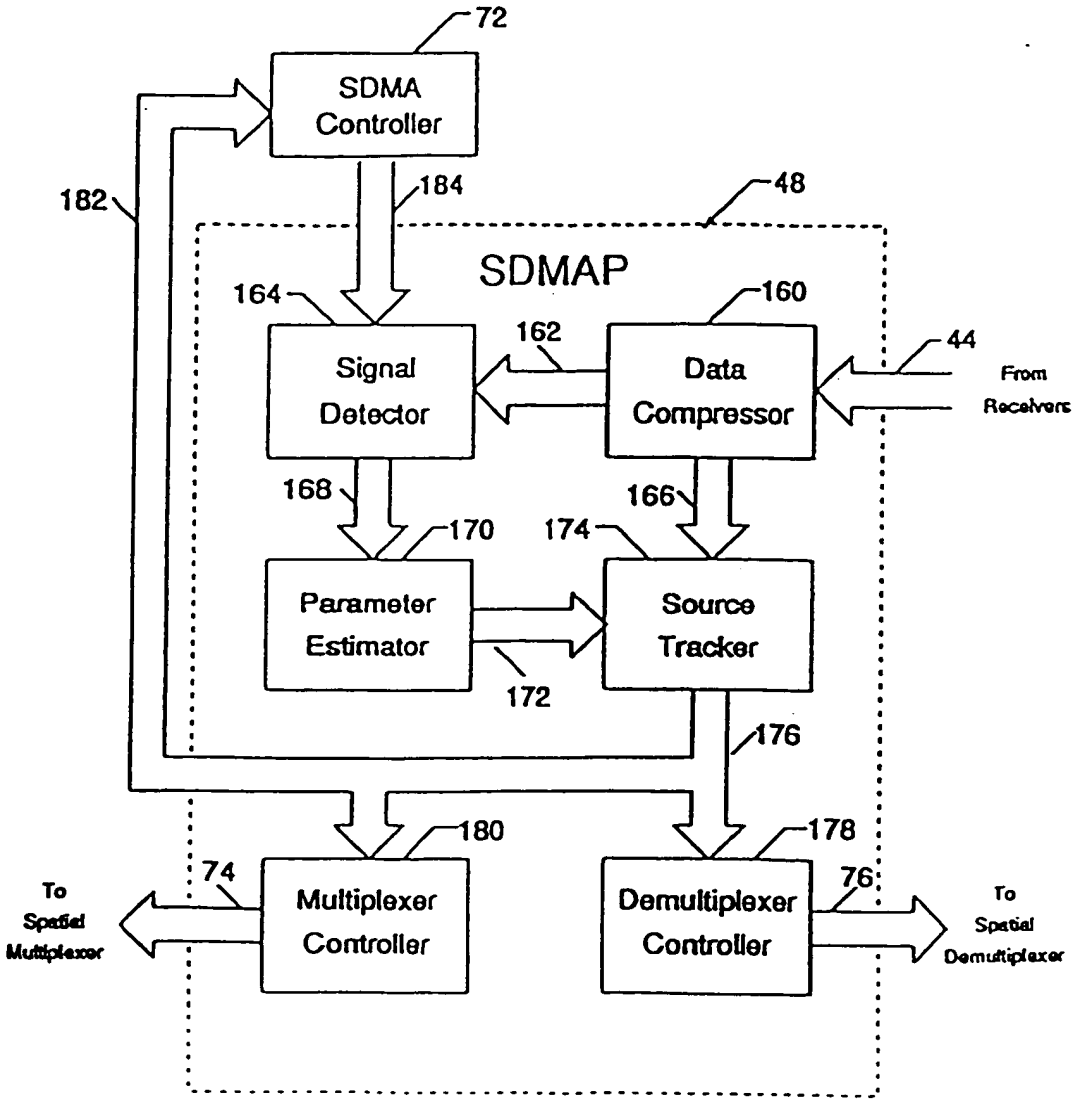
72
SDMA Controller
182
184
48
SDMAP
164
160
162
44
Signal Detector
Data Compressor
From Receivers
168
166
170
174
Parameter Estimator
Source Tracker
172
176
180
178
74
76
To Spatial Multiplexer
Multiplexer Controller
Demultiplexer Controller
To Spatial Demultiplexer

FIG. 3

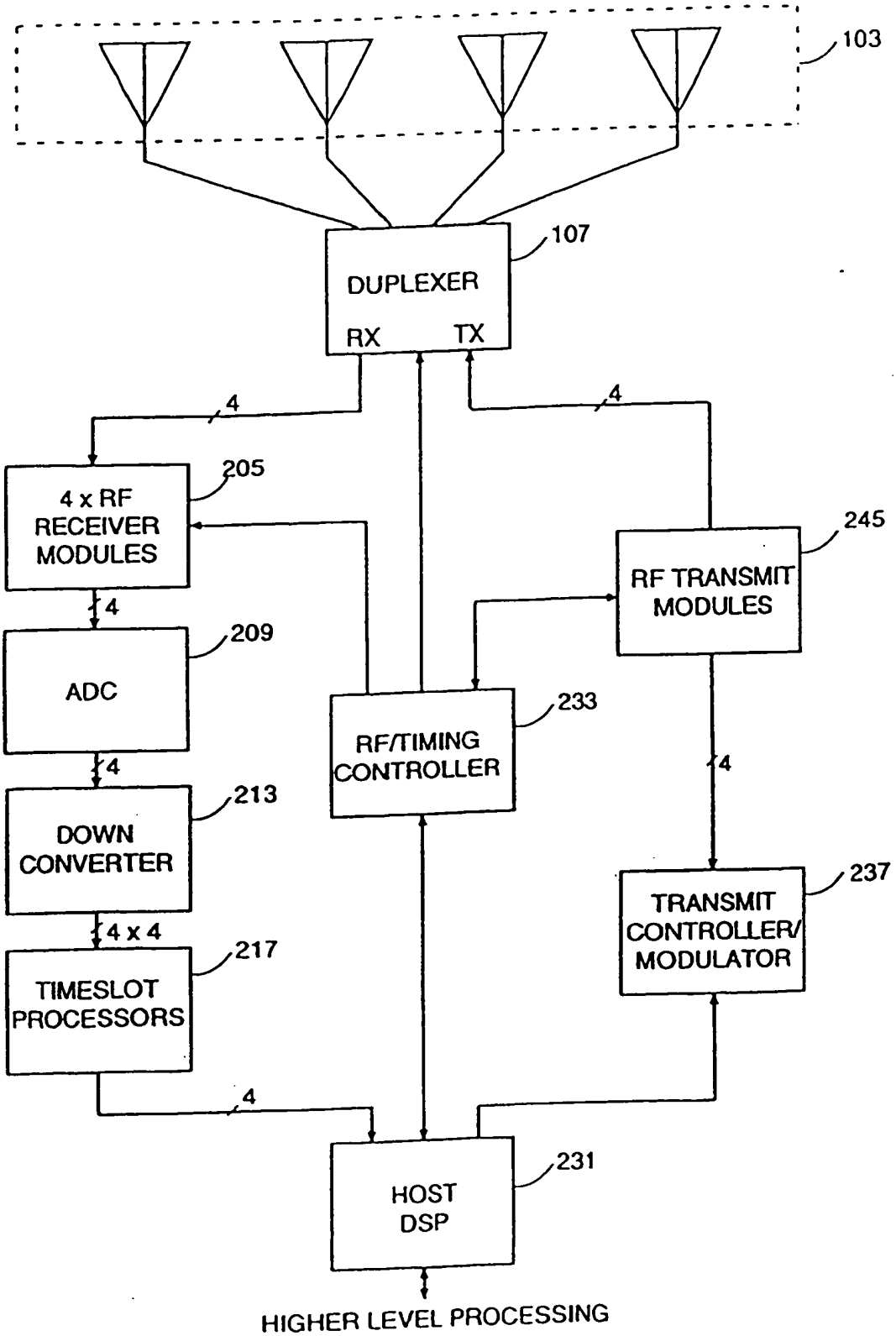
103
107
DUPLEXER
RX
TX
4
4
205
4 x RF
RECEIVER
MODULES
245
RF TRANSMIT
MODULES
4
209
ADC
233
RF/TIMING
CONTROLLER
4
213
DOWN
CONVERTER
237
TRANSMIT
CONTROLLER/
MODULATOR
4 x 4
217
TIMESLOT
PROCESSORS
4
231
HOST
DSP
HIGHER LEVEL PROCESSING

Figure 4

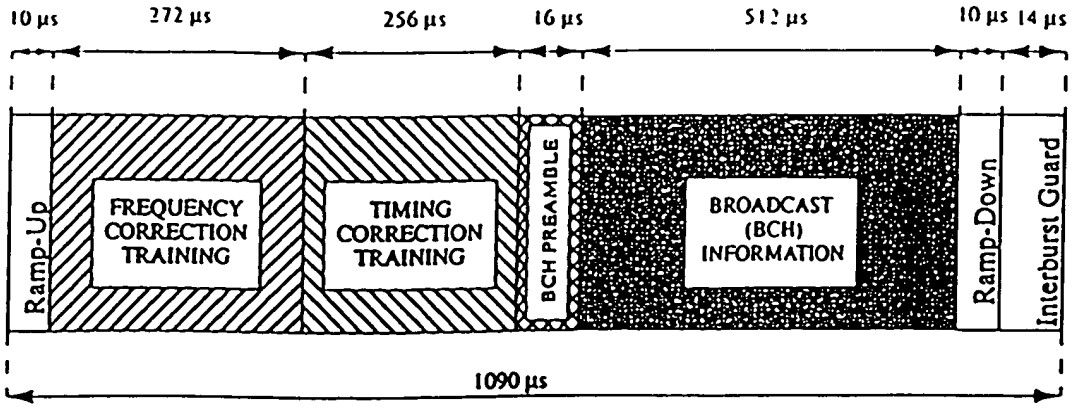

FIG. 5

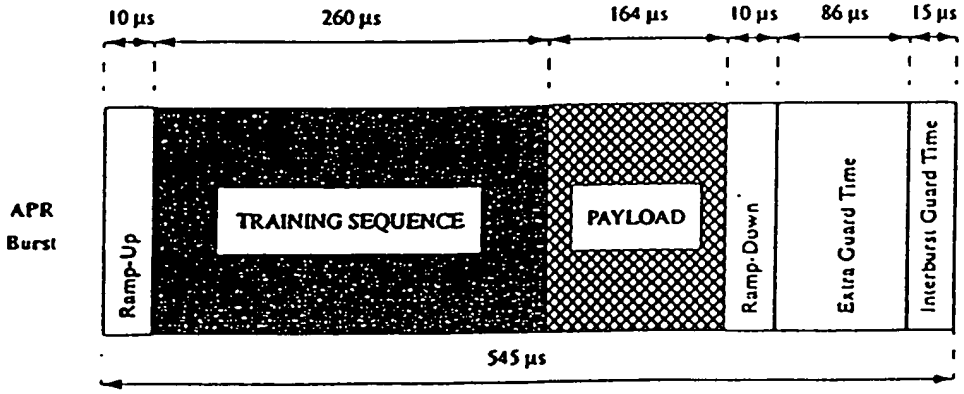

FIG. 6

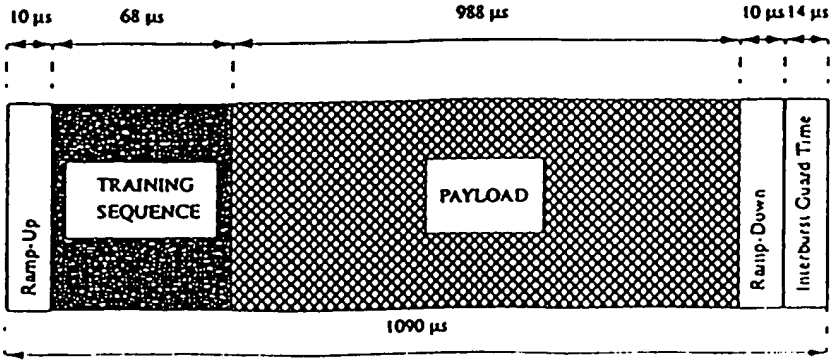

FIG. 7

	Base Station		Remote Terminal
300	Acquire GPS Timing		
302	Determine BCH slot time		
304		BCH ⇒	
306			Scan BCH channels
308			Acquire Frame Timing
310			Acquire Synchronization
312			Build Map of Base Stations BCHs and BSCCs
314			Select Base Station
316			Build CR using UTID and transmit power
318			Scramble CR using BSCC
320		⇐ Configuration Request	
322	Unscamble CR using BSCC		
324	Determine Spatial Signature of Remote CR		
326		Configuration Message ⇒	
328			Adjust timing and power
330		⇐ Traffic Request	
332		Traffic Assignment ⇒	
334		⇐ Traffic ⇒	
336		Send packet ⇒	
338		⇐ Send DA and packt	
340		Send DA and packet ⇒	
342		⇐ Send DA and packet	

Figure 8